Bat Handling/Disinfection Protocol for Summer Bat Field Studies in Kentucky
Developed May 1, 2009

These guidelines are for researchers and consultants who will be conducting summer bat studies in Kentucky that involve catching and handling bats. White Nose Syndrome (WNS) continues to spread aggressively among bat populations in northeastern and eastern states. At this time WNS has been confirmed or is suspected in nine states (Connecticut, Massachusetts, New York, Vermont, New Hampshire, New Jersey, West Virginia, Virginia, and Pennsylvania). To minimize the potential transmission of WNS while handling bats (both handler-to bat and bat to bat), cautionary procedures are warranted. Any equipment that comes in contact with bats has the potential to be a vector for spread of WNS (for example, mist nets, harp traps, bat bags, wing punches, weighing tubes, rulers/calipers, gloves).

Bats infected with WNS will disperse over a larger geographic area during spring and summer. **At this time, any equipment used in any other state should be considered potentially contaminated. This equipment should be decontaminated before being used in Kentucky.**

Disinfection Protocol – Moving Equipment Between States

Transportation of Equipment From Confirmed WNS States to Kentucky

Strict decontamination protocols should be implemented when transporting equipment from state to state. If equipment has been used in a confirmed WNS state, the following, protocols are necessary to help slow unknown early contamination:

All attempts should be made to use new gear in Kentucky. Previously-used equipment that cannot be sanitized as described below should NOT be used in Kentucky.

Any non-porous equipment (mist net poles, harp trap hardware, etc.) that has been used in a confirmed WNS state should NOT be used unless it has been decontaminated as described below prior to being transported into Kentucky. Nets, catch bags, holding bags, bat handling gloves, field clothes, boots, and other porous bat handling gear should not be used in Kentucky after being used in an affected state.

Before leaving a confirmed WNS state, all hardware (mist net poles, harp trap frames and legs, etc) should be:

1. washed/rinsed free of coarse debris
2. sanitized by submerging or soaking in a 10% bleach solution (1part bleach: 9 parts water) or 409 Antibacterial for a minimum of 10 minutes
3. rinsed at least two times
4. air-dried prior to use

To avoid contamination of field vehicles, all gear should be stored in hard sided bins that can be thoroughly disinfected. Porous gear (e.g., nets, bags, gloves, etc…) used in affected states should

be stored in separate bins from gear used in unaffected states. In addition, vehicles should be washed before entering into Kentucky.

Transportation of Equipment From Unaffected States to Kentucky

If equipment has been used in an unaffected state, the following protocols shall be followed:

Before leaving an unaffected state, all hardware (mist net poles, harp trap frames and legs, etc), nets, catch bags, holding bags, bat handling gloves, field clothing, boots, and other porous bat handling gear should be:

1. washed/rinsed free of coarse debris
2. sanitized by submerging or soaking in a 10% bleach solution (1part bleach: 9 parts water) or 409 Antibacterial for a minimum of 10 minutes
3. rinsed at least two times
4. air-dried prior to use

To avoid contamination of field vehicles, all gear should be stored in hard sided bins that can be thoroughly disinfected. Porous gear (e.g., nets, bags, gloves, etc…) used in affected states should be stored in separate bins from gear used in unaffected states. In addition, vehicles should be washed before entering into Kentucky.

Caves, mine portals and hibernacula

A temporary, voluntary moratorium has been placed on entering any caves/mines in Kentucky. All research conducted in Kentucky caves/mines should be coordinated with the Kentucky Department of Fish and Wildlife Resources or U.S. Fish and Wildlife Service – Kentucky Field Office personnel via the email addresses listed below prior to initiation. Alternative guidance on assessing potential summer roosting caves (i.e., Virginia big-eared and gray bats) and/or hibernacula (i.e., Indiana, Virginia big-eared, and/or gray bats) to determine presence/absence of federally listed species is provided below.

A Phase I Habitat Assessment (see 2009 Indiana Bat Survey Guidance) is still an acceptable first step determining the potential use of a cave or mine portal by bats. If this assessment concludes that the cave/mine portal has potential to be used by bats, then the consultant should notify the Kentucky Department of Fish and Wildlife Resources and/or U.S. Fish and Wildlife Service – Kentucky Field Office personnel via the email addresses listed below to determine proper methods and obtain site specific guidance.

General Bat Handling and Decontamination Guidelines

Bags and Gloves

Bats should be kept in individual breathable bags rather than holding cages. To avoid cross-contamination of samples, it is imperative to keep bats separated and holding bags as clean as possible. Non-disposable holding bags should be used only once during a night of field work and should be washed and dried before reuse, following the procedures listed below. Disposable bags are preferred. Paper bags are an option for holding bats temporarily, but may not be reused. Disposable gloves should be worn over handling gloves and changed following every bat that is handled.

After each night of netting (or prior to next night of use), non-disposable bags and gloves should be disinfected as follows:

1. While still at worksite, remove heavy soil deposits from surface

2. Soak in 10% bleach solution (9 parts water to 1 part bleach) or 409 Antibacterial with detergent as a surfactant for 10 minutes. Please use caution when applying any chemical to equipment coming into direct contact with a bat as it has the potential to be ingested by the bat.

3. Rinse two times

4. Dry completely

Hard-Sided Equipment

Use the 10% bleach solution or 409 Antibacterial to sanitize all equipment that comes into contact with a bat's body, including rulers, calipers, weighing containers, scissors, etc. Clean and soak these items in the disinfectant for a minimum of 10 minutes after each bat and rinse thoroughly. Please use caution when applying any chemical to equipment coming into direct contact with a bat as it has the potential to be ingested by the bat. If using reusable containers to weigh bats, disinfect after each bat. Alternatively, bats can be put in a plastic bag (with air holes), weighed, measured (forearm), and the bags discarded after each bat.

If collecting wing biopsies for any approved research studies on bats, punches may be reused, but be sure to completely sterilize them by flame sterilization. This involves dipping the punch in 100% ethanol, flaming, and allowing the punch to cool to ambient temperature between biopsies. It is critical that researchers are aware of the dangers of this technique and are vigilant of where the dripping alcohol falls (especially around open alcohol containers). Be sure to disinfect the cutting board between bats, as described above.

Nets

- When possible, use new nets

Or if not possible,

- Disinfect nets by soaking in 10% bleach solution or 409 Antibacterial for 10 minutes, rinse thoroughly and hang them until completely dry (preferably in the sun).

Harp Traps

- For each new site, clean any dirt/debris from wires/lines and bags, and soak in 10% bleach solution or 409 Antibacterial for 10 minutes, rinse and dry completely (preferably in the sun) prior to use.

- Bats should not be allowed to remain in the bag for more than 10 minutes, but traps should be checked more frequently if possible to reduce the time bats are in contact with each other and the bag. With more frequent checks, it may be possible to line the bottom of the catch bag with a sheet of plastic so that the plastic can be removed every hour and re-lined with clean plastic or wiped down with bleach and rinsed clean before reinserting it, to minimize cross contamination of bats.

Notification of Signs of WNS

As a reminder, the white fungus is only one of the signs of WNS, and we do not expect to find bats with fungus on them during the summer (once they are active and grooming). However, other abnormal characteristics may be indicative of WNS. Abnormal characteristics observed in summer may include: extremely underweight bats; flaky, dehydrated or wrinkled wing/tail membranes; wing lesions; discolored spots /scarring of flight and tail membranes; multiple small to medium sized holes in wing membranes; torn or necrotic areas at the trailing edge of wing and tail membranes. If you should capture a bat that exhibits signs of WNS or abnormal characteristics, inform the Kentucky Department of Fish and Wildlife Resources or U.S. Fish and Wildlife Service – Kentucky Field Office personnel via the email addresses listed below, and:

- Photograph all suspicious bats

- Record a wing score for each bat using the Wing Damage Index, found on the Northeastern USFWS page:

  http://www.fws.gov/northeast/white_nose2.html#research

- Report suspicious bats (and send photos) within 24 hr to: brooke.slack@ky.gov or mike_armstrong@fws.gov